Before the
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

Periodic Reporting	)	Docket No. RM2016-2
(UPS Proposals One, Two and Three)	)	

PUBLIC REPRESENTATIVE REPLY COMMENTS

Kenneth E. Richardson
Public Representative

Katalin Clendenin
Larry Fenster
Gregory Stanton
Public Representative's Technical Team
For Proposals One and Two

901 New York Avenue, NW, Suite 200
Washington, DC 20268-0001
202-789-6859
Email: richardsonke@prc.gov
March 25, 2016

TABLE OF CONTENTS

Page

Periodic Reporting)
(UPS Proposals One, Two and Three)) Docket No. RM2016-2

PUBLIC REPRESENTATIVE REPLY COMMENTS

I. INTRODUCTION

These Public Representative Reply Comments respond to six specific critical arguments presented by the initial comments in opposition to UPS's Proposal One.[1]

In addition, these Reply Comments briefly respond to, and reject, Amazon's comment that UPS's arguments about competitive market conditions are legally irrelevant. Amazon Comments at 70.   The Public Representative's Comments explained the relevance of prevailing competitive conditions in the market. *See* PR Comments at 18-21, 46-55. Section 3633(b) of title 39 reinforces that argument.

Finally, the Public Representative sees no value in responding further to the Postal Service's apparent suggestion that the Postal Accountability and Enhancement Act (PAEA) codified the Commission's cost-causation principle such that only marginal costs and product–specific costs can be causally related to a product to the exclusion of other costs that may be determined to be reliably causally related. Postal Service Comments at 9. The Commission maintains authority under the PAEA to adjust the current costing methodology that determines attributable costs. There is nothing in that statute negating the Supreme Court's clear holding in *NAGCP v. USPS*, 462 U.S. 810 (1983) circumscribing judicially approved Commission procedures for adjusting the attributable costing methodology. *See* PR Comments at 13-17.

---

[1] Petition of United Parcel Service, Inc. for the Initiation of Proceedings to Make Changes to Postal Service Costing Methodologies, October 8, 2015 (Petition): Proposal One — A Proposal to Attribute all Variable Costs Caused by Competitive Products to Competitive Products Using Existing Distribution Methods, October 8, 2015 (Proposal One)

II.   COMMISSION MUST CONSIDER COMPETITIVE CONDITIONS IN THE MARKET

Amazon's Comments contend UPS's arguments about competitive market conditions are legally irrelevant. Amazon Comments at 70. Although Amazon explains the rate impact of the Postal Service's actions are not as onerous as portrayed by UPS, the Commission should not confuse even minimal rate impacts with the broader legally relevant inquiry about the prevailing competitive conditions in the market required by section 703 of the PAEA. Section 703(a), 39 U.S.C.A. § 3633, notes.

The Public Representative's Comments pointed out the applicability of section 703 of the PAEA to any revision of the Commission's regulations under section 3633. PR Comments at 18-21, 46-55. Section 703 requires the Commission, when revising regulations under section 3633, to consider the net economic effect of changes in laws since the Federal Trade Commission Report in December 2007 that apply differently to the Postal Service's competitive category of mail.[2] In enacting 39 U.S.C. 3633, Congress obviously intended to require the Commission to consider competitive market conditions when modifying regulations under section 3633. Section 3633(b) provides:

> Five years after the date of enactment of this section, and every 5 years thereafter, the Postal Regulatory Commission shall conduct a review to determine whether the institutional costs contribution requirement under subsection (a)(3) should be retained in its current form, modified, or eliminated. In making its determination, the Commission *shall* consider all relevant circumstances, *including the prevailing competitive conditions in the market*…. (Emphasis added.)

The above specific directive in 3633(b) to consider the prevailing competitive conditions in the market applies even if, by the time of the 5 year review, "subsequent events that affect the continuing validity of the estimate…" had not occurred. If, as section 3633(b) requires, the Commission is to consider the prevailing competitive conditions in the market when subsequent events have not necessarily occurred

---

[2] Accounting for Laws that Apply Differently to the United States Postal Service and its Private Competitors, A Report by the Federal Trade Commission, December 2007.

affecting the estimate of the net economic effect, then, when events affecting the net economic effect have occurred, the prevailing competitive conditions in the market must also be a subject of review pursuant to section 703.

III.   TECHNICAL ISSUES

These Reply Comments address initial comments critical of UPS Proposal One which would attribute inframarginal costs to competitive products. Commenters opposed to UPS Proposal One raise the following six major technical criticisms of UPS's proposal:

1. Inframarginal costs do not exist and, if they do exist, do not vary with volume and therefore lack a causal nexus with volume needed to be considered attributable costs.
2. Inframarginal costs should not be distributed to (competitive) products because this would involve an arbitrary allocation of common costs.
3. The Postal Service has never before attributed inframarginal costs.
4. Inframarginal costs of market dominant products are not sufficiently causally linked to volume because each market dominant product is a large share of a cost component's volume.
5. Distributing inframarginal costs to (competitive) products would increase attributable product costs above incremental costs, distort pricing signals, and reduce the financial viability of the Postal Service.
6. Using Shapley Values would arbitrarily allocate common costs and exhibit other characteristics which disqualify them from being used in a regulatory context.

The Public Representative rejects and responds, below, to each of the above criticisms.

A.   It Is Well-Settled that Inframarginal Component Costs Exist and Vary with Volume.

1.   Inframarginal costs exist.

ACMA maintains "that the Postal Service tends to have the characteristic that scale changes do not occur, and thus that the short-run curves, possibly with some

adjustment downward, can be taken as long-run curves." ACMA Comments at 20.[3]

ACMA appears to be arguing that marginal costs are actually constant at all volume

levels. If so, then marginal costs at volume levels prior to total volume do not vary, and

inframarginal costs would not exist. This view is at odds with the current methodology,

which is based on the notion that postal cost functions exhibit increasing returns to

scale.[4] The current methodology assumes that the cost functions for components do

exhibit increasing returns to scale, and the marginal cost evaluated at total volume is

constant, even though marginal costs are not constant at volumes prior to total volume.

This assumption lays the basis for the concept of inframarginal costs, *i.e.* marginal costs

which vary with volumes prior to total volume.

The Public Representative believes ACMA's claim lacks merit. Its claim is not

consistent with currently accepted methodology which presumes declining long-run

marginal costs (or the presence of scale economies). ACMA claims marginal costs are

constant because the postal service's costs functions do not exhibit increasing returns

to scale.[5]   ACMA's claim also contradicts recent papers which recognize that the

marginal costs of volumes evaluated at volume levels prior to total volume vary with

volume, and are referred to as inframarginal costs.[6]

---

[3] ACMA devotes 16 pages of Comments to defending this assertion. *See* Docket No. RM2016-2, Initial Comments of the American Catalog Mailers Association (ACMA Comments), January 27, 2016 at 6-10, 15-25.

[4] *See, e.g.*, Bradley Statement at 3, 14. Even mail processing, which has a cost elasticity greater than 90 percent, exhibits some economies of scale.

[5] "It turns out that the Postal Service tends to have the characteristic that scale changes do not occur…." ACMA Comments at 24.

[6] McBride states, "In a 1993 paper by Bradley, Colvin, and Smith… inframarginal cost …is the amount of variable cost that has been incurred in producing all the previous units of output up to the current level of production." *See* McBride at 1. Bradley states, "However, the incremental cost calculation requires computing costs along the component's (cost driver) marginal cost function, which is nonlinear….In this circumstance, it does matter where a product's part of the driver falls under the marginal cost curve because the associated marginal cost is different at different places along the curve." Bradley Statement at 32. Finally, the Postal Service's Office of the Inspector General stated, "Therefore, the total cost of providing all letters includes not only the volume variable cost but the cost of all those letters delivered at a higher cost. Economists have given these costs the ungainly name 'infra-marginal.'" USPS OIG, A Primer on Postal Costing Issues (OIG) at 19.

The Public Representative has shown that not only do inframarginal costs exist, but that they continuously vary with volume, just as volume variable costs vary. PR Comments at 28. Consequently, the Commission must reject arguments that inframarginal costs do not exist or that they do not vary with volume.

>   2.   Inframarginal costs have a causal nexus with volume.

On behalf of the Postal Service, Bradley presents the concepts which form the basis of the currently accepted method of attributing costs to products. While his formulas reflect currently accepted attribution methods, his explanations of those concepts give the impression that inframarginal component costs do not vary with volume.[7] For example, he states that:

> A necessary step in estimating marginal cost is first finding the total volume variable cost of each **component**, VVC_J. It can be found by multiplying the component's total cost by its cost elasticity or "variability." $VVC_j = \varepsilon_j C_j$. Where: $\varepsilon_j = \frac{\partial C_j}{\partial D_j} \frac{D_j}{C_j}$ …. This formulation permits decomposing a **component's** total cost into its volume variable portion, $\varepsilon_j C_j$, *and its non-volume-variable portion,* $1 - (\varepsilon_j)C_j$: $C_j = \varepsilon_j C_j + 1 - (\varepsilon_j)C_j$. (Emphases added).[8] Bradley Statement at 16.

The bolded portion of the quote makes clear that Bradley is discussing component-level, not product-level costs. Bradley's description of the italicized portion of the formula $1 - (\varepsilon_j)C_j$ is misleading. The formula $1 - (\varepsilon_j)C_j$ is the expression for institutional costs, which are comprised of fixed and inframarginal costs. *Id.* at 17. While it is true that fixed component costs do not vary with volume, it is not true that

---

[7] Elsewhere, Bradley maintains that component-level (infra)marginal costs do vary with volume. "The marginal cost for a unit of the driver changes nonlinearly as the total amount of the driver used changes. In this circumstance, it does matter where a product's part of the driver falls under the marginal cost curve because the associated marginal cost is different at different places along the curve." *Id.* at 32. In this situation, the difference between marginal cost and volume variable cost is the inframarginal cost for each cost driver unit.

[8] Analysis of UPS Proposals One and Two, and the Supporting Report of Dr. Kevin Neels, January 27, 2016, Filename: Bradley.Analysis.Prop.One.Two.pdf (Bradley Statement).

inframarginal component costs do not vary with volume, provided the marginal cost function is not constant. Therefore, $\varepsilon_j C_j$ does not represent total component costs that vary with volume as Bradley seems to imply. Rather, it represents the portion of component variable costs that results from an assumption that all pieces are produced at the marginal component cost evaluated at total volume. Likewise, Bradley's explanation of the meaning of $1 - (\varepsilon_j)C_j$ is misleading. Characterizing $1 - (\varepsilon_j)C_j$ as *non-volume-variable,* fails to recognize that institutional costs include component inframarginal costs which in fact do vary with volume. The terminology that the postal community adopted over the years is partially to blame. To those unfamiliar with postal costing, the term "volume-variable cost" would likely suggest that it represents those costs that vary with volume. In fact, as explained further below, volume-variable cost is a term of art which includes some, but not all, costs which vary with volume.

A more accurate explanation of the formulas presented above is that $\varepsilon_j C_j$ is the unit or marginal change in **component** costs **evaluated at total volume or total cost drivers** (emphasis added).[9] Conversely, when component $(1 - (\varepsilon_j)C_j)$ costs do not contain fixed costs, $(1 - (\varepsilon_j)C_j)$ is the portion of component costs which vary with each unit change in the component cost driver evaluated at each unit of the cost driver other than the unit change evaluated at total volume. The Commission should confirm that inframarginal costs exhibit the causal nexus between volume and cost required to be considered attributable costs.

> B.   It Is Reasonable and Not Arbitrary to Distribute Inframarginal Costs to Products.

It is reasonable to distribute inframarginal cost to products in the same manner that volume variable costs are distributed to products. Bradley and Panzar seem to agree that the incremental cost of a product or service is causally related to the product

---

[9] This may explain why Neels Statement incorrectly refers to this as taking the marginal cost at the last unit. *See* Report of Dr. Kevin Neels Concerning UPS Proposals One, Two, and Three (Neels Statement), October 8, 2015 at 19.

or service. However, they argue that inframarginal costs cannot be attributed to individual products because there is no causal link between inframarginal component costs and products and services. They argue that although inframarginal component costs can be identified, they cannot be causally linked with products and services.

Panzar argues that "the infra-marginal component costs that UPS Proposal One seeks to attribute to individual services (or subset of services) are jointly caused by all services using the component but are not caused by any particular service (or subgroup of services)."[10] Panzar Statement at 2. He suggests that UPS Proposal One should be rejected because there is not a direct link between component-level inframarginal costs and specific products and services.

Bradley makes a similar argument, and asserts that it would be inappropriate to use the distribution key that is currently used to distribute volume variable costs to distribute component-level inframarginal costs to products. He contends that, since it is not possible to determine the common portion of a component cost caused by a single product, if one were to use volume variable distribution keys to distribute inframarginal costs, one would allocate a portion of common inframarginal costs to each product. He maintains that the allocation of common costs to a product may not accurately capture the share of common costs caused by that product. He thus concludes that using distribution keys to distribute inframarginal costs would involve an arbitrary allocation of common costs. Bradley Statement at 7.

The Commission should dismiss these arguments. The same criticisms leveled at the proposal to distribute component-level inframarginal costs to products also apply to the distribution of volume variable costs. The Commission has long accepted distributing component-level volume variable costs to products using a distribution key, even though they contain common costs. Although formal economic theory rejects distributing common costs to products, the current methodology uses distribution keys

---

[10] Declaration of John C. Panzar on Behalf of Amazon Fulfillment Services, Inc., (Panzar Statement), January 27, 2016, filename: 16-01-25 Panzar Decl.pdf.

to allocate common and non-common component volume variable costs to individual products.

Economically accurate regulated utility costs should be based on economic theory, but utility regulators must often make reasonable assumptions, which may deviate from pure theory, in order to closely approximate accurate utility costs. Although the allocation of common volume variable costs to a product may not always exactly capture the share of common costs caused by that product, the Commission has accepted the use of distribution keys to allocate common and non-common attributable costs to products based on each product's share of driver activity as a reasonable approximation of the volume variable costs caused by an individual product.

Treating inframarginal costs differently from volume variable costs would be arbitrary and capricious, as both volume variable cost and inframarginal cost attribution requires the Commission to either accept or reject the notion of using a distribution key that allocates costs based on a product's share of driver activity. To be consistent, the Commission should either accept using volume variable distribution keys to distribute inframarginal costs, or it should refrain from using distribution keys to develop marginal or volume variable product costs, and develop new methods to attribute marginal and incremental costs to products.[11]

The Public Representative believes the current methodology requires the use of distribution keys, and finds it reasonable to do so, when distribution keys reasonably capture cost causation within each component. While distribution keys may not perfectly capture the share of common volume variable costs caused by each product, distribution keys differ among components to more accurately reflect the nature of cost causation within each component. The Commission has long-relied upon distributing

---

[11] The Postal Service understands that volume variable product costs include the distribution of common volume variable costs when it states that "[m]arginal costs give all products the exact amount of "savings" from scale and scope economies that they actually deserve. That is because marginal costs embody the actual amount of cost caused by an additional unit of each product under scale and scope economies." In order for all products to share in economies of scope, the costs they incur, at least in part, are incurred in common. Postal Service Comments at 25.

common volume variable costs to individual products within each component, but this distribution (or the use of distribution keys) has not always been based on product volume shares. The Commission has used total pieces handled (TPH) to distribute mail processing costs, even though TPH is greater than the volume of pieces entering all processing plants, because pieces may be rejected and require more than one handling. While a TPH cost driver does not equal the volume of mail which is processed, it captures cost causation better than does the volume of mail entering a plant for processing (referred to as first-handled pieces (FHP)). Similarly, the Commission has also accepted using cubic-foot-miles, rather than volume, as the cost driver to measure highway transportation costs. The Public Representative supports using a non-volume cost driver for highway transportation, because an additional unit of volume will add an insignificant amount of costs to a truck with excess cubic capacity. Cubic-foot-miles is a more accurate cost driver than volume for highway transportation.[12]

The Public Representative maintains that the formulae and arguments used by the Postal Service, Amazon, and ACMA to reject the distribution of common variable and inframarginal costs assume a mathematical purity which is impossible to implement. It is well known that the Postal Service distributes inframarginal costs to each competitive product as part of its incremental cost calculation, even though inframarginal costs contain common costs.[13] So long as the cost drivers used to

---

[12] The Public Representative's Comments criticized using volume shares as the distribution key when new products require higher engineering standards than the previously set of products. In the case of highway transportation, using cubic-foot-miles somewhat mitigates this concern. For example, if larger vehicles are required to deliver a growing volume of competitive parcel products, the larger cube associated with parcels will be captured if the cost driver is cubic foot miles. However, using cubic-foot-miles, rather than volume as the cost driver does not eliminate problem of shifting risk associated with the purchase of larger vehicles for competitive products to market dominant products. Non-parcel products will still account for the majority share of cubic foot miles, even though there may be no need for this more highly engineered vehicle to deliver non-parcel products.

[13] The next section discusses the difference between distributing inframarginal costs for incremental cost testing purposes and attributing them.

distribute each component's variable costs best reflect cost causation for each component, the Public Representative sees no reason to let the perfection of theory become the enemy of good attribution.

> C.   Distributing Inframarginal Costs as Part of the Incremental Cost Test Effectively Attributes Some Inframarginal Costs and Justifies Attributing All Inframarginal Costs.

The end of the Postal Service's Response to CHIR No. 6 gives the impression it has never attributed inframarginal costs.

> As mentioned in the response to CHIR 2, the Postal Service attributes inframarginal cost to products in the calculation of incremental costs. (Note, however, when we used the word "attributed" in the quoted section of that response, as clearly explained, we were using it not to signify the development of the costs long known in postal jargon as "attributable costs," but instead to more generically indicate that *a portion of inframarginal costs were being causally linked to products in the development of incremental costs.*) (Emphasis added.) The Postal Service confirms that since enactment of the Postal Accountability and Enhancement Act of 2006, it has neither calculated nor produced incremental costs for *individual* competitive products, but has instead calculated and presented the incremental cost for the group of competitive products.[14]

The Postal Service relies on this statement to support the notion that inframarginal costs cannot be attributed to individual products. It implies that while some inframarginal costs are causally linked to competitive products as a group, inframarginal costs for specific products cannot be determined. The Postal Service also draws a distinction between the postal term "attributable cost" and "causally linked" inframarginal cost, essentially arguing that it has never attributed inframarginal costs to specific products.

By definition, costs that can be causally linked to a product are attributable to that product. In its calculation of incremental costs of competitive products, the Postal

---

[14] Response of the United States Postal Service to Question 1 of Chairman's Information Request No. 6, January 8, 2016 at 1.

Service does in fact attribute inframarginal costs to specific competitive products as discussed below. The Postal Service states that it estimates inframarginal costs for testing purposes and does not attribute inframarginal costs to competitive products. While this is technically correct, it is important to recall that the Postal Service states that its calculation of inframarginal costs (which it refers to as a "portion of incremental costs") is "causally linked to products in the development of incremental costs." *Id.*

The Postal Service currently calculates domestic incremental costs as the sum of three cost measurements: 1) domestic attributable competitive costs (which are essentially marginal competitive costs), 2) group-specific headquarters' costs, and 3) domestic, inframarginal competitive costs. ACR FY 2015 at 60. It is well known that the estimate of total domestic, competitive inframarginal costs is the sum of product-level domestic competitive inframarginal costs. Domestic, competitive inframarginal costs calculated by the Postal Service are not group-specific costs. Inframarginal costs are calculated separately for each domestic, competitive product.[15] These product-level inframarginal costs are "causally linked to products in the development of incremental costs" as indicated by the response to CHIR No. 6 , quoted above. Consequently, domestic, competitive inframarginal costs meet the criteria for being considered attributable costs.

---

[15] The Postal Service does not separately identify competitive inframarginal costs in this year's ACR, but it is a simple matter to show the Postal Service calculated the inframarginal cost of each competitive, domestic product and considered the sum of these inframarginal costs to be the value of domestic competitive inframarginal costs. The Postal Service's ACR filing, at 60, shows that incremental competitive domestic costs in FY 2015 was $10,985,229 (in thousands of dollars); attributable domestic competitive costs was $10,701,138 (in thousands of dollars) and group-specific headquarters' costs was $ 34,132 (in thousands of dollars). The sum of attributable and group specific headquarters' costs was $10,735,270, leaving a residual amount of $249,959 which, according to USPS-FY15_NP10_Incremental_Costs, IC2015.ICSummaryRpt.xls, Sheet: "ICSummary," is equal to the sum of individual domestic competitive inframarginal costs.

D.   Inframarginal Costs of Market Dominant Products are also Causally Linked to Products

While UPS does not propose attributing inframarginal costs to market dominant products, the Public Representative found Neels' method of calculating inframarginal costs to be sound for both competitive and market dominant products.[16] The Public Representative recommended using the "constant elasticity" method to estimate component-level inframarginal costs, distribute estimated inframarginal cost from each component to products using the same distribution keys used to allocate marginal component costs to products, and then sum each product's share of inframarginal component costs to obtain a product-level estimate of inframarginal costs. PR Comments at 30.

Discussion presented in the previous sections of these reply comments show that cost attribution is not possible without allocating common costs (either marginal, inframarginal, or both) to products. Previous discussion also established that inframarginal costs vary with the magnitude of the cost drivers within each component. For these reasons, and because the Postal Service's Response to CHIR No. 6 states that there is a causal nexus between competitive inframarginal costs and incremental costs, only two arguments remain which challenge attributing inframarginal costs to market dominant products: 1) the constant elasticity method does not reliably represent incremental component costs distributed to products, except for products with very low shares of a component's cost driver; and 2) the calculation of component inframarginal

---

[16] Bradley presents evidence that Neels made several mistakes calculating inframarginal component costs. The primary mistake involved accepting McBride's assumption that all cost components have positive variabilities. Bradley explains this was true in FY 2014, but not FY 2015, the year Neels used McBride's method to calculate component level, inframarginal costs. *See* Bradley at 36-37. Bradley provides revised estimates which account for components with zero variability present in FY 2015, and estimates total inframarginal costs to be much lower than Neels. Bradley utilizes essentially the same methodology as Neels, but uses different variabilities for some cost components. The Public Representative endorses the general methodology used by McBride, Neels, and Bradley to estimate component-level inframarginal costs, and endorses whichever component variability changes, and other corrections, the Commission determines are external to the general methodology used by UPS and the Postal Service.

costs is not reasonably accurate at volumes which are not near the mean. Both arguments are easily dispatched.

> 1.   The magnitude of market dominant product volume shares has a *de minimis* effect on the reliability of the inframarginal costs distributed to products as a proxy for incremental component costs distributed to products.

The Postal Service argues that using the constant elasticity method to estimate one component of incremental product costs (viz. inframarginal costs) "is acceptable for incremental cost calculations because…those calculations take place in the portion of the cost function near current volume levels. Research has shown that the constant elasticity assumption is acceptable in that region of volume. That does not mean the approximation is acceptable for levels of volume far away from current levels." Postal Service Comments, at 16-17. *See* also Panzar Statement at 8.

Bradley, Colvin, and Panzar addressed the relation between inframarginal costs using the constant elasticity method and incremental costs using a translog cost function,[17] in a 1997 CRRI paper.[18] More specifically, they estimated incremental product costs in two ways. In the "top down approach," they estimated the cost elasticity for a cost component using a translog cost function, parameterized a constant elasticity cost function using this elasticity to estimate the component's volume variable and inframarginal costs (*i.e.* total variable or incremental costs of the segment), and distributed these variable costs to mail classes using a distribution key for the component. They referred to this as a top-down, constant elasticity, method of estimating incremental costs. They also utilized what they termed "a bottoms-up" approach. To implement this approach, they removed the cost drivers of the relevant

---

[17] The authors define cost functions for three cost components: transportation, mail processing, and delivery, each estimated as a cost function with different functional forms. They compare incremental to inframarginal plus marginal for one component, but do not identify the component.

[18] *See* Managing Change in the Postal and Delivery Industries, Editors: Crew, Michael A., Kleindorfer, Paul R. (Eds.), 1997, Bradley, M; Colvin, J; Panzar, J; Issues in Measuring Incremental Cost in a Multi-Function Enterprise, pp. 1-13 (Bradley *et. al.* CRRI).

class, used the translog functional form to estimate the accrued cost of the component absent the costs associated with the removed cost drivers, and calculated incremental component cost for this mail class by taking the difference between total accrued cost and the accrued cost estimated without the removed class.

The authors' then examined the difference between incremental costs estimated using each approach. They also tested the robustness of these models by simulating the incremental cost of a mail class comprised of various shares of the component's cost drivers. The first simulation found that there was very little difference between the two methods.[19] Bradley, *et. al.,* CRRI at 13. The authors next increased the impact which a product's cost driver share would have on the results using an 8-fold increase of the second order term in the translog cost function. The authors conclude that "the constant elasticity approximation is off 6 percentage points or about 50 percent of the correct value. However, the second order term is very large in this simulation, much larger than it typically is in estimated cost equations." *Id.*

Although a reader might get the impression that the second simulation yields significantly different results between the two models at higher shares of a product/class, the artificiality of the simulation should be emphasized. Not only did the authors increase the second order term significantly above a normal level, more importantly, they retained the same constant elasticity for comparison. But, if the true translog cost function had a second order term 8 times higher than was originally estimated, the constant elasticity function would differ.[20] The simulated result overstates the cost impact. Even so, visual inspection of the second simulation still

---

[19] Even if a product or class contained 30 percent of total volumes there was approximately 0 percent difference in the estimated incremental cost of a product or class between the translog and the constant elasticity methods, based on visual inspection.

[20] The simulation assumes that one parameter of the estimated translog cost function can dramatically change, without any change in the elasticity parameter – *i.e.* the parameter for the first-order term. For this reason, the simulation is not very realistic.

shows that if a product or class had 30 percent of total volumes, the incremental costs would only differ by 2-3 percent between the two methods.[21]

The 2015 CRA shows that market dominant products, except First-Class Presort Letters (25 percent), Standard Letters (31 percent), and First-Class Single-Piece Letters (13 percent), have volume shares 7 percent or less. Also, one may presume competitive products have low-percentage volume shares because the Postal Service uses the constant elasticity method to estimate the inframarginal cost of each competitive product as part of its incremental cost analysis. USPS-FY15-NP11.Nonpublic.CRA, NonPublic-FY15CRA.xls, Volume Worksheets. These product shares yield _de minimis_ differences between the two incremental cost estimates, even for the unrealistic extreme simulation. The incremental cost of First-Class Single-Piece Letters differs between the two methods in the extreme simulation by less than 1 percent, and the incremental cost differs between the two methods in the extreme case by 2-3 percent for First-Class Presort Letters, and Standard Letters differs by 4-5 percent in the extreme case. Based on the small difference in incremental cost estimates for each method, even for the unrealistic extreme simulation, the Public Representative maintains that the constant elasticity method is reasonably close to incremental cost to justify calculating product incremental costs as the sum of product volume variable and inframarginal costs.

> 2.   The Commission has implicitly accepted the constant elasticity method for determining market dominant volume variable component costs.

Several parties argue that the constant elasticity method of estimating inframarginal component costs is inaccurate at volumes distant from current levels, namely total volume. Postal Service Comments at 17; Amazon Comments at 86;

---

[21] Based upon visual inspection of the Figures in the article.

Thompson at para. 75.[22] However, the Commission has already accepted using a function which is essentially the constant elasticity function to estimate component-level marginal costs.

In its Opinion and Recommended Decision in Docket No. R87-1, the Commission accepted the method of estimating city carrier load time variability evaluated at mean volume. Docket No. R87-1, PRC, Op., at 246-7. The Commission affirmed its decision to evaluate variabilities at the mean value because the mean volume better represented the variability for the entire cost function, and rejected measures for which variability differed depending on the level of volume at which it was evaluated. It also favorably commented on Bradley's statement that "what is important is the set of properties determining the cost function estimated for a particular activity and the measurement of the associated marginal cost at an appropriate level of volume."[23] Docket No. R90-1, Op., at III-5.

The Commission's decision in Docket No. R90-1 is important because it holds that an elasticity evaluated at the mean is representative of the entire cost function. The decision allowed a component's variability evaluated at the mean volume to be applied to total, non-mean volumes. This made it possible to establish total marginal component costs by multiplying (constant) elasticity by component accrued costs. Stated differently, the Commission implicitly determined that variability evaluated at the mean is equally valid at the volume with the greatest distance above the mean. By implication, the same variability would be equally valid if it were applied to the volume with the greatest distance below the mean.[24] By accepting the validity of a mean-

---

[22] ACMA also criticizes using the constant elasticity method "because this function goes through the origin and therefore excludes fixed costs." ACMA at 27. ACMA's criticism is misplaced. Neels only uses the constant elasticity function in the manner described by ACMA for components without fixed costs. In this case the cost function should go through the origin. When fixed component costs exist, for "non-CE components," they are removed from the calculation of inframarginal costs.

[23] Bradley means that it is appropriate to evaluate variability at the mean value and apply that variability to total component volume which corresponds to total component accrued cost.

[24] This is consistent with the notion that the component variability evaluated at the mean is the variability value most representative of the component.

evaluated elasticity applied to maximum, mean, and minimum volumes, the
Commission implicitly determined that cost elasticities for different components are
reasonably constant at all volume levels – which is the definition of a constant elasticity
function![25]

E.   Distributing Inframarginal Costs to Competitive Products Does Not
      Increase Attributed Costs above Incremental Costs and Is Not Arbitrary.

Both Panzar and Bradley argue that distributing inframarginal costs to products
adds costs above incremental costs and sends incorrect pricing signals, which could
potentially diminish the financial viability of the Postal Service. The Postal Service,
Amazon, AMC, AMC *et. al.*, share these concerns to one extent or another. Bradley
Statement at 12; Panzar Statement at 3; ACMA Comments at 29. The concerns are
well-summarized by Bradley:

> Because a product's incremental cost is the total amount of cost caused
> by that product, assigning any additional cost to the product is misleading,
> distortionary, arbitrary and unnecessary. It is misleading because it
> produces a product cost measure that is different from the true amount of
> costs caused by the product. It is distortionary because it can lead to
> prices that will encourage inefficient entry and production. Society will not
> benefit from having the least cost producer provide the product. It is
> arbitrary because there is no causal basis for adding costs to incremental
> cost, so any such addition must rely upon arbitrary rules. Bradley at 12.

First, the Public Representative addresses the criticism that distributing
inframarginal and volume variable costs to competitive products increases costs
attributed to competitive products above the level which would be attributed using
incremental costs. Next, the Public Representative addresses the criticism that
distributing inframarginal costs to competitive products is arbitrary because it involves

---

[25] The Postal Service wrongly states that the recently accepted street time study in Docket No.
RM2015-7 does not have constant elasticities because a flexible quadratic function form was used. *See*
Postal Service Comments at 18. Apparently, the Postal Service does not realize that the elasticity
estimate for each shape was evaluated at the mean, which established a constant elasticity for each
shape, for purposes of cost development. The constant shape variabilities are subsequently aggregated
to the component level.

the distribution of common costs to products. If the mathematics upon which these two criticisms rely is not correct, or is no longer relevant, then the above-mentioned criticisms are without merit.

> 1.   Attributing common inframarginal costs does not add costs above incremental costs.

Panzar states that: "UPS Proposal One would violate the requirements for economically sound cost determination and pricing in multi-product enterprises." Panzar Statement at 3. He argues that "incremental product costs, not the sum of product-level marginal and inframarginal cost most accurately captures the extra cost caused by that product according to economic theory, and adding inframarginal product costs to marginal costs as proposed by UPS would attribute an arbitrary share of common inframarginal costs to products." *Id.* at 2. According to Panzar, "[w]hen a multi-product firm has economies of scale and scope, it is entirely efficient for the firm to pass through most (or even all) of the economies to customers in competitive markets through lower prices, as long as the rates paid by the competitive customers cover the marginal and incremental costs serving them." *Id.* 14

Amazon cites a summary of incremental cost studies by Braetuigam. Amazon Comments at 22. The Braetuigam article concludes by noting that that the efficiency of the incremental cost formula developed by Baumol, Panzar, and Willig occurs only when a natural monopoly exhibits what are termed "modest cost complementarities."[26] The Panzar and Willig article examines the conditions necessary for a natural monopoly to successfully deter entry by a single competitor, or group of competitors, providing one, or a subset of, products produced by the alleged natural monopoly. If these conditions are met, the multi-product firm is a natural monopoly, which means it is the least cost producer of every combination of products it offers. Legally established

---

[26] *See* Ronald R. Braetuigam, Optimal Policies for Natural Monopolies, in Handbook of Industrial Organization, vol. 2, (R. Schmalensee & R. Willig, eds., 1989) at 1340 n. 68. The article cited by Braetuigam is Panzar, John and Willig, R. "Free Entry and the Sustainability of Natural Monopoly," (Panzar and Willig), *The Bell Journal of Economics*, Vol. 8, No. 1 (Spring, 1977), pp. 1-22.

barriers to entry would not be needed in order to deter entry because it would be producing every combination of products at the least cost, and it would be the most efficient producer.

If a multi-product firm can sustain itself as a natural monopoly, and the corresponding formula for measuring incremental product costs excludes the common costs associated with that product, then it would be efficient to exclude common costs from the incremental cost formula. Conversely, if a multi-product firm is not a natural monopoly, the firm is no longer the least cost provider of all products, and it would not necessarily be efficient to exclude common costs from the measure of product-level incremental costs.[27] Many assumptions are needed for a multi-product firm to be a natural monopoly. Standard assumptions require that the firm:

- is the least cost producer of every combination of products;
- earns zero profits;
- sets prices for all products below (potential) competitor's prices;
- enjoys economies of scope;
- sets product prices equal to or greater than marginal costs.

Less well-known assumptions are that it must also:[28]

- enjoy weak internal product demand substitution;[29] and
- exhibit weak cost complementarities among its products.[30]

---

[27] The Public Representative is not aware of an academic consensus on the extent to which resources would be misallocated if incremental cost excludes common costs when a multi-product firm is not a natural monopoly.

[28] If these five assumptions are met, then the products produced by the multi-product firm are efficient, and the firm is able to sustain its natural monopoly without legal or regulatory entry barriers, or without engaging in anti-competitive practices.

[29] Panzar and Willig call products with low cross-elasticities, "weak gross substitutes." Panzar and Willig, at 11.

[30] Suppose an entrant offers product 1 at a lower price than the incumbent, who has been regulated for being considered a "natural monopolist." If the incumbent firm has weak cost complementarities and weak substitution among its products, Panzar and Willing showed that the firm can remain the least cost provider of all products, and so prevent entry from another firm, by reducing the price of the product being offered by the entrant. This is true, so long as the marginal cost of producing the additional amount of "product 1" engendered by the price reduction is offset by lower average incremental costs of providing the new combination of product 1 and product 2. For example, to rebuff entry of a provider of product 1, the incumbent would reduce the price of product 1. Since it is assumed there is little to no demand substitution within the firm, the lower price of product 1 will not induce mailers

It is not necessary to discuss the reasonableness of the assumptions required for a natural monopoly to be sustainable which are listed above. The PAEA determined that Priority Mail, Expedited Mail, Bulk Parcel Post, Bulk International Mail, and Mailgrams are competitive, and the Commission reclassified a portion of what was once classified as market dominant Standard Mail Commercial Irregular and Machinable Parcels as competitive Lightweight Parcel Select. Also, a portion of what was once classified as market dominant Single-Piece Parcel Post was reclassified as competitive Standard Post products. Because UPS, FedEx and other firms provide products in these markets, the Postal Service is no longer a natural monopoly. The incremental cost formulas which were designed as conditions needed to ensure the sustainability of the Postal Service's natural monopoly, including refraining from distributing common costs, are no longer required.[31] Consequently, the Commission must adopt new measures of incremental cost which fairly share the burden of common marginal, common inframarginal, and common institutional costs.

Moreover, it is unlikely the Postal Service has ever met the conditions necessary to sustain itself as a natural monopoly without legal restrictions or other governmental mandates. Consider the requirement that the price of each product must be greater than its marginal cost, or product revenue must exceed its total marginal cost. In the Commission's terms, each product must have a cost coverage (Revenues / Marginal Costs) greater than 100 percent.[32] This is decidedly not the case. There were 11

---

of product 2 to modify their product so that it could be mailed as product 1. Thus, the increase in mailer demand for product one is limited to the products' own-price elasticity of demand, which is low. Cross-elasticity of demand is assumed to be zero, so there is no decrease in demand for product 2. If the cost complementarities between product 1 and product 2 are weak, the firm can increase production of product 1 without having to increase facilities used in common with product 2. Weak cost complementarities imply the reduction of product 2 will reduce average incremental costs and offset the increased cost of producing more of product 1. *See* Panzar and Willig at 16.

[31] Namely, the assumption that it is efficient to exclude common costs from incremental costs is no longer required.

[32] The Commission includes product-specific costs and total marginal costs in the "cost." However, few products have product-specific costs and may be ignored for the purposes of this argument.

products with cost coverage less than 100 percent in FY 2015.[33] Because the Postal
Service does not meet several of the conditions necessary to remain a sustainable
natural monopoly, it is more likely the Postal Service has been able to retain its
dominant position in many postal markets due to the mailbox monopoly, the letter
monopoly, and the lack of a bidding or auction process to provide Universal Service
Obligations.

Because the Postal Service is not a natural monopoly, excluding common costs
from incremental cost is not efficient or appropriate. Consequently, Bradley, Panzar,
and ACMA's criticism that attributing common inframarginal costs adds costs above
incremental costs is incorrect.[34] In conclusion, not only is there no known method of
measuring incremental component costs in a way which excludes common component
costs; even if it were possible, doing so would not establish efficient, sustainable,
product costs.

    2.   Allocating common costs to products is a necessary component of
          the currently accepted method of attributing total marginal costs to
          postal products and is not arbitrary.

Several parties argue that the current method of attributing costs to products
excludes the allocation, more commonly referred to as distribution, of common costs to
products. This is simply not true — common costs are allocated to products. To see
this, consider the delivery of mail, which it is generally agreed benefits from economies
of scope. A portion of accrued delivery costs are common costs. The current
methodology establishes total marginal delivery cost by multiplying the aggregate
delivery variability by accrued, direct delivery component costs. Since the cost elasticity
of delivery (its volume variability) is the analog of scale economies, multiplying accrued
delivery costs by the component's variability to determine total marginal costs would

---

[33] Docket No. ACR2015, Comments of the Public Representative, February 2, 2016.

[34] Excluding common costs from incremental product costs is no longer efficient, and it is no
longer certain that the proper measurement of incremental costs should exclude common costs.

remove scale economies from marginal costs, but would not remove costs incurred in common from marginal costs.[35] Since the savings from economies of scope involve accrued delivery costs incurred in common to deliver mail, and multiplying them by delivery variability only removes economies of scale from total marginal delivery costs, common delivery costs remain in marginal delivery costs.

Bradley agrees that it is not possible to remove common costs, although he did not specifically apply this argument to marginal costs. He states that "[t]here are many activities in which several of the Postal Service's products are handled simultaneously. An excellent example is the time spent by a mail carrier on his delivery route. The carrier leaves the carrier office and passes by each address, all the time carrying different products (e.g., letters, flats, parcels). The cost of the carrier time expended in such an activity is both fixed with respect to volume and common to many products: "Therefore, there is no justifiable economic algorithm for determining how much of such common costs should be assigned to an individual product." Bradley Statement at 2. Similar arguments are made in the Panzar Statement at 7.

Even though the Commission and the Postal Service do not know the extent to which components contain common costs, or which combination of products are responsible for different common costs within each component, they both allocate common marginal component costs, along with non-common marginal component costs, to every product using the distribution key for each component.[36] The Postal Service states that it allocates inframarginal costs, (which contain common costs) to competitive products using the volume variable distribution keys for each component. The Postal Service goes so far as to say this practice is legitimate because it is based on a causal nexus between inframarginal costs and the products to which these costs

---

[35] The variable costs incurred in common would simply be divided between marginal and inframarginal component costs (once fixed component costs are removed).

[36] It is worth emphasizing that multiplying accrued costs by the cost elasticity, or the volume variability of a component, may remove economies of scale from marginal component costs, but does not remove common costs from marginal component costs.

are allocated. *See* PR Comments, Section II.D, and Postal Service Response to CHIR 6.

This discussion leads to one of two possible conclusions with respect to the currently accepted method of attributing component costs to products: 1) the Postal Service and the Commission have been over-allocating costs to products to determine the marginal cost of products for the last 40 years, or 2) using distribution keys to allocate common costs reasonably captures the causal nexus between common costs and the products receiving these allocations.

The Public Representative maintains that the second conclusion is correct. The Public Representative has shown that, despite the best efforts of the Postal Service and the Commission to develop marginal costs using the methods of the "Baumol School;" distribution (or allocation) of common costs remains a necessary aspect of regulating a multi-product firm. As discussed earlier, the Commission and the Postal Service have refined the measurement of distribution keys to better reflect cost causation within components over the years. The currently accepted methodology uses distribution keys to allocate common marginal costs, and distributes inframarginal costs to competitive products, which, according to the Postal Service, establishes a causal nexus between distributed inframarginal component costs and competitive products.

F.   Criticisms of the Shapley Method Lack Merit and Should Not Be Relied
        Upon to Reject Proposal One.

In Proposal One, Neels supports using distribution keys to distribute inframarginal costs partly based on his claim that this is consistent with the Shapley Method. However, several commenters contend the Shapley Method is flawed in many ways, and if his distribution method is consistent with the Shapley Method, Proposal One is also flawed. All of the criticisms of the Shapley Method are irrelevant, out-of-date, inapplicable to the Postal Service, or not true for the particular uses of the Shapley Method that are supported by the Public Representative. In this section, the Public

Representative rebuts the alleged flaws of the Shapley Method and proposes a feasible version and use for the Shapley Method.

1.   Criticism--Shapley Values have been difficult to interpret from the point of view of cost allocation.[37]

Bradley criticizes the Shapley Values as difficult to interpret for cost allocation purposes. Bradley's criticism relies upon a partial quote from an article by Roth and Verrecchia. However, the next sentence following the quote states that the purpose of the article is to develop a modification in "which the Shapley value provides an appropriate cost allocation mechanism … the modification is consistent with the objectives of fairness, equity, and neutrality suggested by accounting theory."[38] Therefore, the difficulties of interpretation have been alleviated by the cost allocation mechanism presented in the article.

2.   Criticism--Shapley Values are not clearly linked to cost causation because they allocate common costs, yield product costs greater than incremental costs, and are not economically efficient.[39]

The Public Representative maintains that currently accepted attribution methods already allocate common costs and yield product costs greater than the impossible-to-implement incremental cost method proposed in the Panzar Statement on behalf of Amazon. Panzar Statement at 5, 13. Panzar and Bradley also maintain that a Shapley allocation of common costs lays the basis for inefficient pricing. *See* Bradley Statement at 12 and Panzar Statement at 21-22. Yet, the currently accepted costing method also allocates common marginal costs to products, and is subject to the same criticisms of sending inefficient signals for pricing purposes (even though since the PAEA it is difficult to maintain that the Postal Service's pricing continues to be based on marginal-cost

---

[37] Bradley Statement at 23-24.

[38] Roth, A., Verrecchia, R., The Shapley Value As Applied to Cost Allocation: A Reinterpretation, Journal of Accounting Research, Vol. 17, No. 1 (Spring, 1979), pp. 295-303.

[39] See Panzar Statement at 17-19; Bradley Statement at 24-25; ACMA at 38-40.

pricing). Finally, cost allocation is only considered to be arbitrary from a purely economic, non-normative, view. *See* Bradley Statement at 26. It is not arbitrary when considered from a normative view, namely when concepts of equity and fairness are given weight in decision making.[40]

3.   Criticism--Shapley Values do not apply to the Postal Service because it assumes managers are risk neutral with regard to the outcome of a Shapley game.[41]

This criticism is based upon a situation where potential participants in the cooperative game are free to evaluate the risk of participating, and free to not join the game. This situation does not apply to the Postal Service, since the Board of Governors weigh risks and comes to a consensus, which presents the world with a single risk profile. Moreover, the literature on Shapely Values extensively considers the issues of differential risk and derives Shapley Value formulae which account for differential risk.[42]

4.   Criticism--Shapley Values are so computationally intensive they have not been used by regulatory agencies for cost allocation purposes.

Bradley states that if one were to use the Shapley Method to determine an equitable allocation of costs to all of the Postal Service's 34 different products, it would require over 10^{38} iterations, which would be prohibitively complicated. Bradley

---

[40] Moreover, allocations derived from developing Shapley Values can be considered economically efficient if all included products receive an allocation. In that case, all products would be required to achieve the existing levels of scope economies. If an existing product did not receive an allocation, it would be more efficient to produce it using a separate network. Using Shapley values in this fashion could help determine whether the Postal Service is inefficiently producing products in common, when it would be more efficient to produce some products on separate network(s).

[41] *See* Bradley Statement at 22.

[42] *See, e.g.*, Hart, S and Mas-Colell, A. *Potential, Value, and Consistency*, Econometrica, Vol. 57, No. 3 (May, 1989), 589-614; Hart, S and Monderer, D; *Potentials And Weighted Values Of Nonatomic Games,* Mathematics Of Operations Research, Vol. 22, No. 3, August 1997; and McLean, R., Pazgal, A., Sharkey, W., *Potential, Consistency, and Cost Allocation Prices,* Mathematics of Operations Research Vol. 29, No. 3, August 2004, pp. 602-623, to name a few.

Statement at 27. The Public Representative maintains the best use of Shapley Method

is in combination with a forward-looking long-run incremental cost (FL-LRIC) method to

determine the LRIC of building a competitive network. In this case, only two

permutations would be required. Moreover, if the relevant cost functions are sub-

modular, Pearsall, and Nam D˜ung Ho`ang have developed algorithms which quickly

calculate costs requiring permutations of the magnitude mentioned by Bradley. Nam

D˜ung Ho`ang has also developed an efficient algorithm if the relevant cost functions

are not sub-modular.[43]

> 5.   Recommendation--The Shapley Method could be used, along with
> an estimate of forward-looking long run incremental competitive
> costs, to replace the current sharing requirement, and to determine
> whether or not market dominant products subsidize competitive
> products.

Using the Shapley Value to estimate forward-looking, long-run incremental

competitive costs (FL-LRIC) would require estimating the FL-LRIC of a market dominant

network and a competitive network. This would be accomplished with only two

permutations of cost incursion as discussed below.

Permutation one would first estimate the incremental cost of building a market

dominant network and then estimating the additional cost of building a competitive

network. Permutation two would reverse the process and estimate the incremental cost

of building a competitive network first, and then estimate the additional cost of building a

market dominant network. The Shapley Value for competitive products would be the

average of the two estimates of competitive incremental costs: 1) when a competitive

---

[43] Sub-modularity occurs when the sum of the incremental costs of all products is less than total
incremental costs, usually due to economies of scope. *See* Pearsall, T. *The Complete Incremental Cost
Test For Cross-Subsidies With A Sub-Modular Cost Function,* Journal of Regulatory Economics,
December 2009, 36:274; and Nam D˜ung Ho`ang, Algorithmic Cost Allocation Games: Theory and
Applications, Ph.D. Thesis, University of Technischen Universit¨at Berlin, viewed at https://depositonce.tu-
berlin.de/bitstream/11303/2910/1/Dokument_25.pdf on March 8, 2016.

network is built first;[44] and 2) when a competitive network is built after a market dominant network and is able to benefit from the economies of scope in a network providing mail to both market dominant and competitive markets. Then, by comparing competitive revenues to the Shapley Value for the incremental costs of the competitive network, the Commission could determine compliance with section 3633(a)(1) of title 39. [45]

The estimate of the Shapley Value of the competitive network could also be used to establish a sharing factor which can be updated in a consistent, non-arbitrary, manner. The ratio of competitive incremental costs to total incremental costs would reflect an equitable sharing of common costs. If this share were applied to total institutional costs, which is a common cost, an equitable amount of competitive costs which would need to be applied towards the recovery of common institutional costs would be established. Since the Commission must evaluate this sharing option in light of Section 703, this method may also be used as a starting point in determining the appropriate share of the institutional costs of the Postal Service that all competitive products must contribute collectively.

IV.   RECOMMENDATIONS

Commenters, including the Public Representative, have raised several important issues which should be given further consideration by the Commission. To ensure the Commission uses the best methods for fulfilling its statutory responsibilities, the Public Representative recommends examining these issues, either as part of the proceeding to

---

[44] In this case, the incremental cost of a competitive network is its stand-alone cost.

[45] It would be necessary to apply a CRA Adjustment Factor to the incremental cost of a competitive network. This would allow actual competitive revenues to be compared to a measure of competitive incremental costs of the appropriate magnitude. To calculate this CRA adjustment factor, one would need to know the forward looking incremental cost of building a combined network, which in the Shapley case would be the sum of the incremental cost of building a competitive network and a market dominant network. The ratio of accrued costs to total incremental costs would be the Incremental CRA adjustment factor. It could be applied to competitive, market dominant, or total incremental costs, depending on the revenues to which these costs are being compared.

consider UPS' Proposal Three,[46] or as part of the 5-year review of the institutional cost contribution requirement of section 3633, or as part of a public inquiry prior to the consideration of Proposal Three. The following matters should be addressed:

- The appropriate method to determine whether UPS' proposals would improve the competitive marketplace or harm the Postal Service;

- Whether competitive products are subsidizing market dominant products, and what test(s) should be used to make this determination;

- Whether Shapley Values have a legitimate regulatory function for the Commission; and

- Whether the method of developing indirect product component costs from dependent components can be improved and how this could be accomplished.

Additionally, uncodified Section 703 of the PAEA requires the Commission to take into account events that affect the continuing validity of the Federal Trade Commission's Report (FTC's Report) estimate of the net economic effect of federal laws with respect to the competitive category of mail. Questions which deserve attention include:

- What events should the Commission consider to determine whether they affect the continuing validity of the FTC's estimate of the net economic effect of federal and state laws;.

- Do these events rise to the level of affecting the validity of the FTC's estimates of the net economic effect of federal and state laws that affect the provision of competitive mail products. FTC's Report at 9; and

- What method(s) should the Commission use to determine the competitive market effect of federal and state mandates on the Postal Service's provision of services?

Lastly, the Commission should reexamine its approach to whether market dominant products subsidize competitive products. In doing so, the Commission should consider:

---

[46] The Commission delayed considering the third proposal in UPS' Petition "until the impact of Proposals One and Two are known." Order No. 2793 at 6.

- Whether an incremental cost method should treat costs consistently;

- The advantages and disadvantages of short-run and long-run incremental costs (LRIC) methods;

- The advantages and disadvantages of "top-down" and "bottom-up" long run incremental cost methods.[47]

V.   CONCLUSION

The Public Representative respectfully submits the foregoing Reply Comments for the Commission's consideration.

Respectfully submitted,

Kenneth E. Richardson
Public Representative

Katalin Clendenin
Larry Fenster
Greg Stanton
Public Representative's Technical Team
For Proposals One and Two

901 New York Avenue, NW, Suite 200
Washington, DC 20268-0001
202-789-6859
Email: richardsonke@prc.gov
March 25, 2016

---

[47] Bottom-Up LRIC methods use forward-looking, engineering or operations methods.